E. C. CADOT.

Keyboard for Pianofortes.

No. 215,208. Patented May 13, 1879.

fig. 1.

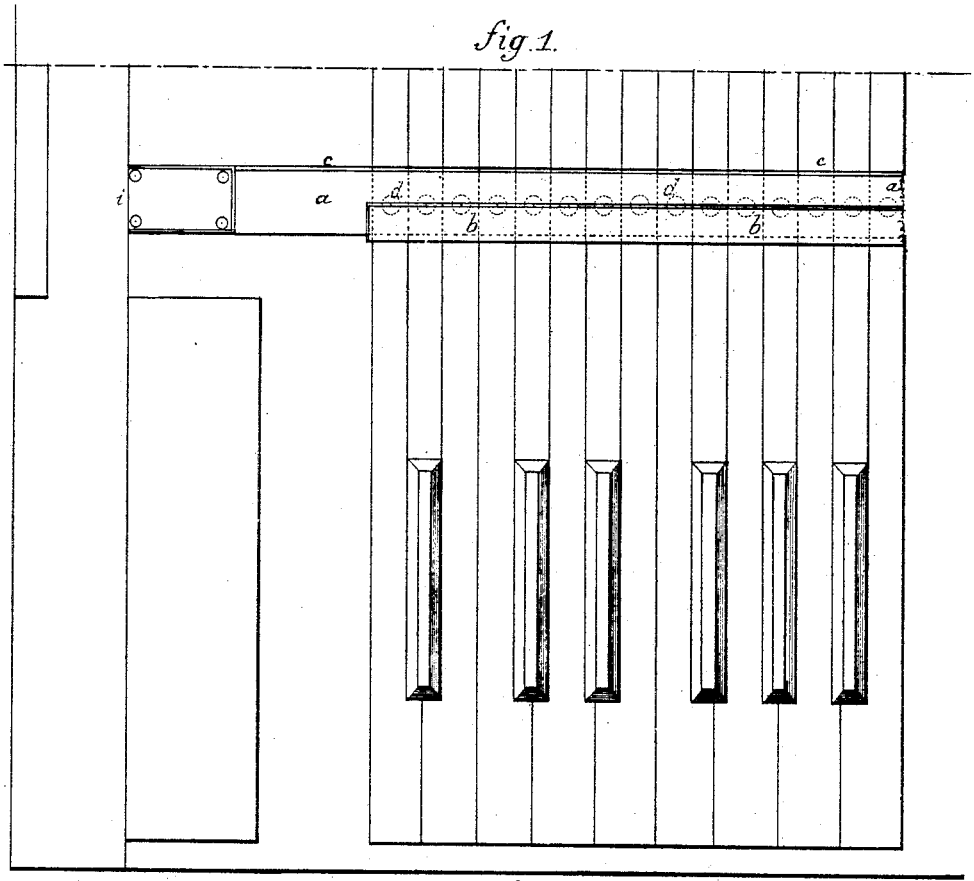

fig 3.

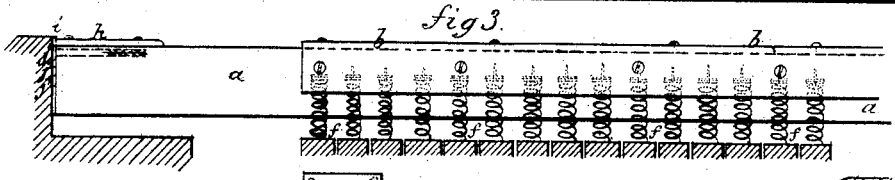

fig. 4.

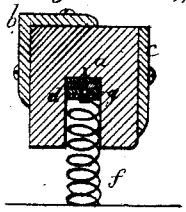

fig. 5.

fig. 2.

Witnesses.

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ETIENNE C. CADOT, OF PARIS, FRANCE.

IMPROVEMENT IN KEY-BOARDS FOR PIANO-FORTES.

Specification forming part of Letters Patent No. **215,208**, dated May 13, 1879; application filed December 2, 1878.

To all whom it may concern:

Be it known that I, ETIENNE CONSTANT CADOT, of Paris, France, have invented new and useful Improvements in Pianos; and I do hereby declare that the following is a full and exact description thereof.

My invention has for its object the contrivance of an apparatus to which I give the name of "égaliseur automatique," (automatic equalizer,) and which is designed to obviate the imperfections in the play or action of the keys of pianos, whether such imperfections arise from dampness having caused the wood to swell, thereby preventing the keys from working, or from the weights inside the keys becoming oxidized, and therefore too light to cause them to fall down.

My instrument, which may be adapted to pianos of all constructions, renders the play or action of the keys uniform, whatever be the wear or the cause which prevents their free action, the keys readily resuming their normal condition, and not becoming stuck or fixed.

Independently of the advantage obtained by this apparatus as mechanical play, it gives more clearness and more depth to the sound, by increasing the flexibility of the hammers, which rest a shorter time on the strings. It permits the repetition of the notes with greater facility, and, in short, it becomes indispensable to the good working of all pianos.

The annexed drawings illustrate the construction and working of my apparatus.

Figure 1 is a top view of a piano key-board to which my apparatus is adapted. Fig. 2 is a side section of the same. Fig. 3 shows a front view of the apparatus applied to a key-board. Fig. 4 is a transverse section of the apparatus on a larger scale, in order to show its construction more clearly.

This apparatus is composed of a wooden bar, *a*, strengthened at front by a longitudinal right-angled brass piece, *b*, held to it by screws. A steel plate, *c*, held behind the bar *a* by screws, prevents, conjointly with the angle-piece, the bending of the wood.

The wooden bar *a* has on its under face a number of cavities or recesses, *d*, equal in number to those of the keys of the key-board, and in each of which is placed a spiral spring, *f*. Each of these springs is held to the bottom of the recesses or cavities *d* by a screw passing through a washer, *g*, to which it is soldered. Small felt washers interposed between the wood and the washer *g* prevent jar or vibration.

At the two ends of the bar *a* is placed a sliding bolt, *h*, the shank of which enters a strap or slotted plate, *i*, having three slots, *j*, *j*, and *j'*, and seen detached at Fig. 5.

The apparatus is placed below the blocks, where it is held by its two bolts *h h*. Each spring bears against the back of each key, and forces it to rock and rise rapidly.

More or less pressure may be applied to the springs by lowering the bar to the second slot, *j*, so as to give more strength to the touch, according to the taste and the fingering of the pianist.

With this arrangement of apparatus, the weights ordinarily placed in the keys may be dispensed with.

Another advantage resulting from my apparatus is, that it renders the whole key-board free from jarring, and consequently dispenses with the various small apparatus in use, which now only produce the result on a portion of the key-board.

To render the key-board thus free for its whole length, the bar must be lowered to the third slot, *j'*, of the staple or slotted plate, which forces the springs to exercise great pressure on the keys, and by raising or drawing back the mechanism or action the keys are then held, although isolated from the mechanism, and they continue to rise up, and the whole length of the key-board can then be played upon without fear of any of the keys getting out of order.

All these combined advantages render my apparatus, as I have before stated, not only indispensable to all pianos working badly, owing to faulty construction, or from deterioration, but also to all new pianos, to modify the touch and to give to the sound a depth and pureness so difficult to obtain.

I am aware of United States Patent No.

71,427, and of English Patent No. 2,559 of 1871, and do not wish to be understood as claiming anything therein shown or described. Neither do I claim any of the parts, except in the combination hereinafter specified.

I claim as my invention—

1. In combination with the key-board and keys of a piano, the bar *a*, cavities or spring-seats *d* therein, and springs *f*, substantially as and for the purpose specified.

2. In combination with the key-board and keys of a piano, the bar *a*, cavities *d* therein, springs *f*, sliding bolts *h*, and slotted plate *i*, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

E. C. CADOT.

Witnesses:
DAVID T. S. FULLER,
ALBERT CAHENT.